What is Claimed:

1. A method for determining a severity of power disruptions in a geographic region in accordance with weather conditions, comprising:

receiving weather prediction models;

generating input layers representative of convective intensity, winds and winter weather conditions; and

determining a power disruption index value from the input layers.

2. The method of claim 1, wherein generating the input layer representative of convective intensity comprises:

determining if convective available potential energy is greater than 1000 J/kg;

determining if storm relative helicity greater than 100 m^2/s^2;

determining if 0-6 km wind shear is greater than 20 kts; and

determining 12-hour pressure falls at 18,000 feet.

3. The method of claim 1, wherein generating the input layer representative of convective intensity comprises:

determining if convective available potential energy is greater than 1000 J/kg; and

determining if 0-6 km wind shear is greater than 20 kts.

4. The method of claim 1, wherein generating the input layer representative of convective intensity comprises:

determining if temperatures at 10,000 feet are less than 12°C;

determining if a K-index is greater than 30; and

determining if a lifted index is less than zero.

5. The method of claim 1, wherein generating the input layer representative of winds comprises determining wind speeds and wind gusts.

6. The method of claim 5, wherein determining input layers representative of wind gusts comprises:

determining if a mean of the winds from 1000 to 5000 ft;

determining a rate at which the temperature cools from 1000 to 5000 ft, and

if the rate exceeds 7°C per km, then subtracting 5 kts from the mean of the winds.

7. The method of claim 5, wherein determining input layers representative of wind gusts comprises:

deriving the mean wind speed maxima from MesoETA and GFS models;

calculating mean values from the 850 decameter height millibar pressure level to surface level; and

plotting the calculated mean values as a the input layers representative of wind gusts.

8. The method of claim 1, wherein generating the input layers representative of winter weather conditions comprises determining a snow accumulation, snow wetness, and ice accretion.

9. The method of claim 8, wherein determining input layers representative of snow accumulation comprises:

averaging snow, rain, ice pellet, and freezing rain probabilities for a predetermined period of time;

outputting a model quantitative precipitation field where a snow conditional probability is higher than all other precipitation conditional probabilities;

averaging a surface temperature for said predetermined period of time;

converting said model quantitative precipitation field into snowfall by using a 15:1 ratio if the average surface temperature is less than 28°F; and

converting said model quantitative precipitation field into snowfall a 10:1 ratio if the average surface temperature is greater than or equal to 28°F.

10. The method of claim 8, wherein determining input layers representative of snow wetness comprises:

determining a snowfall amount for a predetermined period of time;

determining an average surface temperature for said predetermined period of time; and

converting the snowfall amount and the average surface temperature to an index.

11. The method of claim 10, wherein converting to said index, comprises:

setting said index to zero where less than 1" of snow is expected or the surface temperature is below 30.5°F;

assigning said index to one where greater than 1" of snow is expected and average surface temperatures are forecast between 30.5°F and 32.1°F; and

assigning said index to two when greater than 1" of snow is expected and average surface temperatures are forecast to be greater than 32.1°F.

12. The method of claim 8, wherein generating input layers representative of ice accretion comprises:

calculating ice accretion rates as a function of wind speed by determining an averaging the model conditional freezing rain, rain, ice pellet, and snow probabilities for a predetermined period;

outputting a model quantitative precipitation field for any point where the freezing rain conditional probability is higher than all other precipitation conditional probabilities;

determining an average surface temperature for said predetermined period;

converting the output quantitative precipitation field into accretion by using 80% of the liquid precipitation if the average surface temperature for said predetermined period is below 27°F; and

converting the output quantitative precipitation field into accretion by using 66% if the average surface temperature is at or above 27°F for said predetermined period.

13. The method of claim 1, wherein determining the power disruption index value from the input layers comprises:

comparing input values of the input layers to determine a highest value of all the input values; and

assigning the power disruption index value to the highest value.

14. The method of claim 1, further comprising editing the input layers if an aspect of the expected weather conditions for a specific region are not accurate in the input layers.

15. A system for determining a power disruption index representative of a severity of power outages based on weather conditions in a geographic region, comprising:

a central computing receiving weather prediction models;

a forecast and programming server that generates input layers representative of convective intensity, winds and winter weather conditions, the forecast and programming server utilizing the input layers to determine the power disruption index;

a graphics production server that produces end-user graphical representations of weather conditions forecast by the input layers; and

a communications link for providing the power disruption index to subscribers.

16. The system of claim 15, wherein said forecast and programming server generates the input layer representative of convective intensity by:

determining if convective available potential energy is greater than 1000 J/kg;

determining if storm relative helicity greater than 100 m2/s2,

determining if 0-6 km wind shear is greater than 20 kts; and

determining 12-hour pressure falls at 18,000 feet.

17. The system of claim 15, wherein said forecast and programming server generates the input layer representative of convective intensity by:

determining if convective available potential energy is greater than 1000 J/kg; and

determining if 0-6 km wind shear is greater than 20 kts.

18. The system of claim 15, wherein said forecast and programming server generates the input layer representative of convective intensity by:

determining if temperatures at 10,000 feet are less than 12°C;

determining if a K-index is greater than 30; and

determining if a lifted index is less than zero.

19. The system of claim 15, wherein input layers representative winds comprises determining input layers representative of wind speeds and wind gusts.

20. The system of claim 19, wherein said forecast and programming server determines input layers representative of wind gusts by:

determining if a mean of the winds from 1000 to 5000 ft;

determining a rate at which the temperature cools from 1000 to 5000 ft, and

if the rate exceeds 7°C per km, then subtracting 5 kts from the mean of the winds.

21. The system of claim 19, wherein said forecast and programming server determines input layers representative of wind gusts by:

deriving the mean wind speed maxima from MesoETA and GFS models;

calculating mean values from the 850 decameter height millibar pressure level to surface level; and

plotting the calculated mean values as a the input layers representative of wind gusts.

22. The system of claim 15, wherein said forecast and programming server generates input layers representative of winter weather conditions by determining input layers representative of snow accumulation, snow wetness, and ice accretion.

23. The system of claim 22, wherein said forecast and programming server determines input layers representative of snow accumulation by:

averaging snow, rain, ice pellet, and freezing rain probabilities for a predetermined period of time;

outputting a model quantitative precipitation field where a snow conditional probability is higher than all other precipitation conditional probabilities;

averaging a surface temperature for said predetermined period of time;

converting said model quantitative precipitation field into snowfall by using a 15:1 ratio if the average surface temperature is less than 28°F; and

converting said model quantitative precipitation field into snowfall a 10:1 ratio if the average surface temperature is greater than or equal to 28°F.

24. The system of claim 22, wherein said forecast and programming server determines input layers representative of snow wetness by:

determining a snowfall amount for a predetermined period of time;

determining an average surface temperature for said predetermined period of time;

converting the snowfall amount and the average surface temperature to an index.

25. The system of claim 24, wherein said forecast determines said index by:

setting said index to zero where less than 1" of snow is expected or the surface temperature is below 30.5°F;

assigning said index to one where greater than 1" of snow is expected and average surface temperatures are forecast between 30.5°F and 32.1°F; and

assigning said index to two when greater than 1" of snow is expected and average surface temperatures are forecast to be greater than 32.1°F.

26. The system of claim 24, wherein said forecast and programming server generates input layers representative of ice accretion by:

calculating ice accretion rates as a function of wind speed by determining an averaging the model conditional freezing rain, rain, ice pellet, and snow probabilities for a predetermined period;

outputting a model quantitative precipitation field for any point where the freezing rain conditional probability is higher than all other precipitation conditional probabilities;

determining an average surface temperature for said predetermined period;

converting the output quantitative precipitation field into accretion by using 80% of the liquid precipitation if the average surface temperature for said predetermined period is below 27°F; and

converting the output quantitative precipitation field into accretion by using 66% if the average surface temperature is at or above 27°F for said predetermined period.

27. The system of claim 15, wherein said forecast and programming server determines said power disruption index value from the input layers by:

comparing input values of the input layers to determine a highest value of all the input values; and

assigning the power disruption index value to the highest value.

28. The system of claim 15, further comprising an editing server and an editing workstation, wherein the editing workstation provides a means to edit the input layers if an aspect of the expected weather conditions for a specific region are not accurate in the input layers

29. A method of determining a power disruption index indicative of expected power outages within a geographic area expecting severe weather conditions, said method comprising:

receiving MesoETA and GFS prediction models;

generating a convective intensity input layer;

generating a wind gust input layer;

generating a snow accumulation input layer;

generating a snow wetness input layer;

generating an ice accretion layer; and

determining the power disruption index from the generated layers.

30. The method of claim 29, wherein generating the convective intensity layer comprises:

determining if convective available potential energy is greater than 1000 J/kg;
determining if storm relative helicity greater than 100 m2/s2,
determining if 0-6 km wind shear is greater than 20 kts; and
determining 12-hour pressure falls at 18,000 feet.

31. The method of claim 29, wherein generating the convective intensity layer comprises::
determining if convective available potential energy is greater than 1000 J/kg; and
determining if 0-6 km wind shear is greater than 20 kts.

32. The method of claim 29, wherein generating the convective intensity layer comprises::
determining if temperatures at 10,000 feet are less than 12°C;
determining if a K-index is greater than 30; and
determining if a lifted index is less than zero.

33. The method of claim 29, wherein generating the wind gust layer input layer comprises:
determining if a mean of the winds from 1000 to 5000 ft;
determining a rate at which the temperature cools from 1000 to 5000 ft, and
if the rate exceeds 7°C per km, then subtracting 5 kts from the mean of the winds.

34. The method of claim 29, wherein generating the wind gust layer input layer comprises:
deriving the mean wind speed maxima from MesoETA and GFS models;
calculating mean values from the 850 decameter height millibar pressure level to surface level; and
plotting the calculated mean values as a the input layer representative of wind gusts.

35. The method of claim 29, wherein generating snow accumulation input layer comprises:
averaging snow, rain, ice pellet, and freezing rain probabilities for a predetermined period of time;

outputting a model quantitative precipitation field where a snow conditional probability is higher than all other precipitation conditional probabilities;

averaging a surface temperature for said predetermined period of time;

converting said model quantitative precipitation field into snowfall by using a 15:1 ratio if the average surface temperature is less than 28°F; and

converting said model quantitative precipitation field into snowfall a 10:1 ratio if the average surface temperature is greater than or equal to 28°F.

36. The method of claim 29, wherein generating snow wetness input layer comprises:

determining a snowfall amount for a predetermined period of time;

determining an average surface temperature for said predetermined period of time;

converting the snowfall amount and the average surface temperature to an index, wherein said index is set to zero where less than 1" of snow is expected or the surface temperature is below 30.5°F, set to one where greater than 1" of snow is expected and average surface temperatures are forecast between 30.5°F and 32.1°F, and set to two when greater than 1" of snow is expected and average surface temperatures are forecast to be greater than 32.1°F.

37. The method of claim 29, wherein generating ice accretion input layer representative comprises:

calculating ice accretion rates as a function of wind speed by determining an averaging the model conditional freezing rain, rain, ice pellet, and snow probabilities for a predetermined period;

outputting a model quantitative precipitation field for any point where the freezing rain conditional probability is higher than all other precipitation conditional probabilities;

determining an average surface temperature for said predetermined period;

converting the output quantitative precipitation field into accretion by using 80% of the liquid precipitation if the average surface temperature for said predetermined period is below 27°F; and

converting the output quantitative precipitation field into accretion by using 66% if the average surface temperature is at or above 27°F for said predetermined period.